

of arms, and consequently refers it to the *Crinoidea*. M. Vollborth saw these tentacula once only; no one else has seen them. They are placed on the lip of the mouth; the arms of the *Crinoidea* however are really never placed there; the apertures which our specimen exhibits on the lip, moreover, are so small, that they could only have allowed the passage of very small tentacles. And worse than all, what a huge ovarian aperture! No crinoid ever had such. M. Vollborth continually calls it the anus of the animal, not considering that in all such animals the anus is situated very near the mouth, never in the deeper-seated parts; in fact, in *Pentremites* it is in the mouth itself. But in *Sphaeronites* and *Cryptocrinites* this is still more striking; in both, at the point of the five valves which close the ovarian aperture, there are five openings, just as in the minute ovarian plates of the *Cidarites* and other Echinodermata. Who will hereafter seek in them for cloacal excretions?

The *Cystideæ* are essentially distinguished from the *Crinoidea* by these ovarian apertures; this M. Von Buch states that he shall always maintain, and to have explained it is certainly of some service.—*Leonhard and Bronn's Jahrbuch für Geologie, &c.*

ON THE ORIGIN OF INFUSORIA AND MUCOR.

In the 'Ann. des Sci. Nat.' 1845, Zool. p. 182, Dr. M. F. Pineau describes the first origin of infusoria and of mould, which resemble one another so much on their first appearance, that it is impossible to determine what will become an infusorium, what a mould. We shall here merely communicate one of the cases relating to the manner in which *Penicillium glaucum* is formed; as in the other cases enumerated, the observer could not follow the originating mould to its perfect development, and was consequently unable to determine it.

An infusion of bread exhibited up to the sixth day at a temperature of 10° to 12° R. the appearance of a considerable production of *Bacterium Termo*, *Vibrio lineola* and *Monas lens*. Soon after this period acid fermentation commenced, when all these animals died, and the liquid became covered with a uniform granular pellicle. The surface of the piece of bread was also covered with granulations, and numerous particles, more or less in the granular state, were seen floating about in the water. On the following day traces of a separation in the form of a network with polyangular meshes 0·003 millimeters broad were noticed in the granular mass covering the surface. A similar formation of small globules also took place in the granular substance on the bread. After twelve hours these globules possessed well-defined outlines and began to assume an oval form. Small isolated patches consisting of considerably larger oval globules, difficult to separate from one another, likewise floated about. A few hours afterwards the liquid contained a number of micodermic globules which had evidently originated from the above patches; these globules now expanded into filaments and formed the *Penicillium glaucum*. In the same manner this *Penicillium* likewise formed on milk; but the author could not observe what Turpin has said re-

specting the fat globules which change into filaments of mucor. The other experiment, which was not carried on to the fructification of the mould, was made with isinglass and the addition of a little vinegar. No animals were formed in it, but in other respects it presented all the appearances of the other case, only that the filaments aggregated into a thick thallus.

PREPARING FOR PUBLICATION.

Dr. Johnston is preparing for the press a second edition of his 'History of British Zoophytes.' It will be published by Mr. Van Voorst in a style to correspond with that spirited publisher's series of 'Histories of British Animals,' and will contain descriptions of all the species discovered since the publication of the first edition, with numerous additional plates.

METEOROLOGICAL OBSERVATIONS FOR JULY 1845.

Chiswick.—July 1. Rain and boisterous, with heavy rain in forenoon: overcast. 2. Overcast: rain. 3. Sultry: thunder and rain: clear at night. 4, 5. Very fine. 6. Sultry, with slight dry haze: lightning at night. 7, 8. Very fine. 9. Cloudy: rain. 10. Rain: overcast. 11. Rain: cloudy: 1 P.M. thunder and excessively heavy rain commenced. 12. Fine. 13. Slight rain: overcast. 14. Very fine: rain. 15. Showery: fine. 16. Very fine: rain. 17. Showery. 18, 19. Very fine. 20. Cloudy: rain. 21. Fine. 22. Very fine: rain. 23. Drizzly. 24. Overcast. 25, 26. Foggy: overcast. 27, 28. Cloudy: rain. 29. Heavy clouds: clear. 30. Densely clouded: rain. 31. Heavy showers.—Mean temperature of the month $1\frac{1}{2}^{\circ}$ below the average.

Boston.—July 1. Cloudy: rain early A.M.: rain A.M. and stormy P.M. 2. Cloudy. 3. Cloudy: rain early A.M.: rain with thunder and lightning A.M. 4. Cloudy: rain, with lightning P.M. 5. Fine. 6. Fine: lightning at night. 7. Fine: 3 o'clock P.M. thermometer 81° . 8. Fine. 9. Fine: rain P.M. 10. Cloudy. 11. Rain. 12, 13. Cloudy. 14. Cloudy: rain early A.M.: rain P.M. 15, 16. Fine. 17. Rain. 18. Fine. 19. Cloudy. 20. Cloudy: rain P.M. 21—27. Cloudy. 28. Fine: rain P.M., with thunder and lightning. 29. Rain: rain early A.M.: rain P.M. 30. Fine: rain P.M. 31. Fine: rain, with thunder and lightning P.M.

Sandwich Manse, Orkney.—July 1. Cloudy: rain. 2. Damp: clear. 3. Clear: drizzle. 4. Clear: showers. 5, 6. Clear. 7. Rain: fog. 8. Clear. 9. Cloudy: showers. 10. Showers: clear: damp. 11. Bright: showers. 12. Showers. 13. Showers: clear. 14, 15. Cloudy: showers. 16. Cloudy. 17. Clear. 18, 19. Bright: hot. 20. Damp: fog. 21. Fog. 22, 23. Cloudy. 24. Cloudy: damp. 25. Cloudy: drops. 26. Drops: cloudy. 27. Clear: showers. 28. Clear: rain: clear. 29. Fine. 30. Cloudy: fine. 31. Bright: drops.

Applegarth Manse, Dumfries-shire.—July 1. Very heavy rain. 2. Very beautiful day. 3. Showers: thunder. 4. Fine. 5. Very fine. 6. Showers: thunder. 7. Showers A.M.: fine P.M. 8, 9. Showers. 10. Fair and fine. 11. Showers. 12. Fair and clear. 13. Wet. 14. Heavy showers. 15. Fair and fine. 16. Heavy showers. 17. Fair and fine. 18, 19. Fair, but cloudy. 20, 21. Fair, but clear. 22, 23. Fair, but cloudy. 24, 25. Fair and fine. 26. Showers. 27. Fair A.M.: showers P.M. 28. Fine: thunder. 29. Showers P.M. 30, 31. Showers.

Mean temperature of the month	$56^{\circ}\cdot 2$
Mean temperature of July 1844	$56\cdot 9$
Mean temperature of July for twenty-three years .	$58\cdot 1$
Rain in July	$2\cdot 18$ inches.
Mean rain in July for eighteen years	$3\cdot 91$ „